APPENDIX F

PETRO-CHEMICAL SYSTEMS, INC. / TURTLE BAYOU SUPERFUND SITE 2007 RD/RA CONSENT DECREE

Lyondell Chemical Co., et al. V. Albemarle Corp., et al.
No. 01: 01-CV-890 (E.D. Tex.)

APPENDIX F

STATEMENT OF WORK FOR THE REMEDIAL DESIGN AND REMEDIAL ACTION

Petro-Chemical Systems, Inc. Superfund Site
Liberty County, Texas
EPA ID# TXD980873350

March 2007

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
SUPERFUND DIVISION

Statement of Work for Remedial Design and Remedial Action
Petro-Chemical Systems, Inc. Superfund Site
Liberty County, Texas

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A. Introduction

The Petro-Chemical Systems, Inc. Superfund Site (the "Site", also known as the Turtle Bayou Superfund Site) was listed on the National Priority List on June 10, 1986 by the U.S. Environmental Protection Agency (EPA). The Site is located along CR 126, also known as Frontier Park Road, about fifteen miles south, southeast of Liberty, Texas and six miles north of Interstate 10.

The Site consists of approximately 500 acres which includes two waste disposal areas known as the CR 126 West Area (also referred to as the Far West Road Area, FWRA) and the Bayou Disposal Area (BDA), where between 1969 and approximately 1974 various industrial wastes were disposed along an earthen road and in pits and on the ground off of the road.

The Petro-Chemical Systems Inc. Superfund Site is located in rural Liberty County. The site is located east of Farm to Market Road 563 (FM 563). The site's east boundary is the Turtle Bayou tributary which receives drainage from most of the Site and which flows to Lake Anahuac. Waste disposal appears to have started in mid 1969 and continued for several years. Texas Water Quality Board records indicate the dumping of waste oils in unlined pits and on Frontier Park Road. It appears that wastes were dumped indiscriminately from trucks at numerous locations, and that waste disposal activities continued through 1974.

With the enactment of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980, interest in the site was renewed. In 1984, the US EPA proposed the site for inclusion on the National Priorities List (NPL). After placement on the NPL, the Turtle Bayou Superfund Site initially was divided into two operable units (OUs). The first unit addressed affected soil in the road (Frontier Park Road) (OU1). Investigation of other disposal areas (OU2) began in 1988. The ROD for OU1, signed on March 27, 1987, called for the excavation of 5,900 cubic yards of soil. The excavated material was placed in an aboveground vault constructed in the Main Waste Area. This work was completed in August 1988 and included remediation of the portion of Frontier Park Road that divides the area of the site known as the CR 126 West Area. A new road was built over the less affected soils left in place using conventional asphalt road construction techniques. The rebuilt road was designated CR 126 and serves as a cap for the residues of the wastes that remained after excavation.

The 1991 ROD for the Turtle Bayou Superfund Site addressed OU2, the remaining identified disposal areas. On April 30, 1998, the EPA issued an amended ROD for OU2 that narrowed the site definition, modified the soil cleanup criteria, and identified additional remedial technologies that could be used to meet the cleanup criteria in the West Road Area, Main Waste Area, Office Trailer Area, Easement Area, and the Bayou Disposal Area (BDA) of the Site.

As part of the OU2 work, several monitor wells were installed along Frontier Park Road after it had been remediated. As a result of sampling well MW-30 in 1999, and installing and sampling additional wells in 1999 and 2000, the disposal area known as the CR 126 West Area (also referred to as the Far West Road Area, FWRA) was discovered.

Affected ground water was found in the shallow aquifer in each of the disposal areas discovered at the Site. In general, the shallow aquifer at the Site, as identified by the 1990 EPA-led Remedial

Investigation and Feasibility Study (RI/FS), is not currently being used as a source of drinking water. However, the shallow aquifer could be used as a source of drinking water in the future and is considered a Class 2-B aquifer. Based on data collected prior to 1991, the presence of constituents of concern (COCs) in the shallow aquifer and shallow soils was determined to present future potential risks above health-based levels. Therefore, the potential for future exposure to affected ground water and soils are considered the primary risks at the Site.

The 1991 ROD for the Turtle Bayou Site addressed OU2. Soil vapor extraction (SVE) and ground water sparging formed the major components of the selected remedy. The remedy also included an engineered soil and synthetic liner cap for the BDA. On December 22, 1993, the EPA issued a Unilateral Administrative Order (UAO) for the OU2 Remedial Design (RD) and Remedial Action (RA). Pursuant to the UAO, Lyondell Chemical Company (Lyondell; formerly known as ARCO Chemical Company) and Atlantic Richfield Company worked with the EPA and the Texas Natural Resource Conservation Commission (TNRCC, later reorganized to be the Texas Commission on Environmental Quality, the TCEQ) to complete the RD for the Turtle Bayou Site. The RD began on September 25, 1992, and was completed on May 22, 1998.

On April 30, 1998, the EPA issued the 1998 Amended ROD for OU2 that changed the Turtle Bayou Site's remedy by identifying additional soil and ground water components that could be used in combination with 1991 ROD remedy components to achieve the Site's amended performance standards. The 1998 Amended ROD also modified the remedy in the BDA, changing the engineered soil and synthetic liner cap to a graded clay cap with vegetated cover.

On December 8, 1998, the EPA entered into a Consent Decree with ARCO Chemical Company (later referred to as Lyondell Chemical Company), Atlantic Richfield Company, and others. Pursuant to the Consent Decree, Lyondell and Atlantic Richfield Company addressed affected media in four of the Site's remediation areas: West Road Area, Main Waste Area, Office Trailer Area, and the Easement Area. Lyondell and Atlantic Richfield Company were not required to address the BDA. EPEC Polymers, referred to herein as the Settling Work Defendant, has agreed to perform the scope of work required to address the FWRA and the BDA pursuant to the Consent Decree to which this appendix is attached.

B. Purpose

The purpose of this Statement of Work (SOW) is to set forth the framework and requirements for the Remedial Design (RD) of the selected remedy as defined in the Record of Decision (ROD) for the FWRA and the BDA, and requirements for implementing the Remedial Action (RA) for the FWRA and the BDA at the Petro-Chemical Systems Superfund Site in accordance with the RD and the ROD. The ROD shall mean the EPA Record of Decision signed September 6, 1991, by EPA's Regional Administrator and any modifications, ROD amendments (expressly the September 22, 2006 ROD Amendment) and explanation of significant differences. It also sets forth the frame work and requirements for designing and implementing contingent response measures that might be required in the future (referred to herein after as future response measures) in accordance with the ROD. The RD is generally defined as those activities undertaken to develop the final plans and specifications, general provisions, and special requirements necessary to translate the ROD into the remedy to be constructed under the RA as well as necessary operation and maintenance, performance monitoring & special requirements. The RA is generally defined as the implementation phase of site remediation or construction of the remedy. The RA is based on the RD in order to achieve the remediation goals specified in the ROD. This SOW is designed to provide the framework for conducting the RD/RA activities at the Site. The goal of the SOW is to complete the RA within forty-two months of the EPA Authorization to Proceed.

Settling Work Defendant agrees to and shall perform all Site Remedial Design and Remedial Action required by the Consent Decree in *United States v. EPEC Polymers, Inc. et al*. (E.D. Tex. 2007), of which this Statement of Work is Appendix F and an incorporated part, and as required by this SOW. Settling Work Defendant also agrees to and shall require its contractors to perform all operation and maintenance (O&M) activities required to maintain the effectiveness of the remedial action in accordance with all requirements of the approved plans developed and adopted pursuant to the Consent Decree and this SOW. This shall include the requirement for accomplishment of investigations and studies to support EPA's conduct of five year reviews of Site RA as directed by EPA pursuant to section 121(c) of CERCLA, 42 U.S.C. §9621(c). Activities conducted pursuant to the Consent Decree and the Statement of Work shall achieve the Applicable or Relevant and Appropriate Requirements (ARARs) and Performance Standards determined in the ROD, including cleanup standards, standards of control, quality criteria, and other substantive requirements, criteria, and limitations set forth in the ROD. Settling Work Defendant shall carry out the RA Work in accordance with work plans approved in advance by EPA.

C. Overview of Selected Remedy and Performance Standards

1. Remedial Action Objectives and Remediation Goals

Remedial action objectives (RAOs) and remediation goals (RGs) were developed for the Site based on site-specific risk calculations and such that Applicable or Relevant and Appropriate Requirements (ARARs) are met. The RAOs refer to specific sources, contaminants, pathways, and receptors and are listed in the ROD. The RGs, the allowable concentration of a contaminant which may remain in a specific medium at the Site, are also listed in the ROD.

2. Performance Standards

The Performance Standards are those cleanup standards, standards of control, and other substantive requirements, criteria and limitations set forth in the ROD, except where waived in accordance with the ROD. Performance Standards include but are not limited to the RAOs set forth in the ROD, the RGs set forth in the ROD, or other measures of achievement of the goals of the Remedial Action.

3. Remedy Description

The Site conditions in the CR 126 West Area and Bayou Disposal Area will be addressed in accordance with the ROD. The response actions will address the threats to direct contact and ground water. The remedy for each area will be addressed as described below:

3.1 Bayou Disposal Area

The selected remedy for the Bayou Disposal Area is set forth and described in the ROD. In summary, the remedy requires excavation and off-site disposal as necessary to achieve the RGs identified in the ROD.

3.2 CR 126 West Area Remedy

In the ROD, the EPA selected an aggressive approach for remediation of the Site conditions. In summary, the selected remedy is the application of an in situ mechanical augered chemical oxidation (ISCO) technology where affected soil and shallow ground water are treated to

convert constituents of concern and other residual waste constituents to water, carbon dioxide, and chloride compounds within a 4800 square foot area to a depth of 25 feet. The ROD also provides for the waiver of soil and ground water remediation goals set in the ROD for the protection of ground water quality within the area where the RGs are technically impractical as defined by EPA in accordance with the ROD.

3.3 Institutional Controls

Institutional controls will be implemented during the response action to protect human health, and as necessary thereafter, and in accordance with the Consent Decree and the ROD.

3.4 Quarterly Ground Water Monitoring

Ground water monitoring from site-wide monitoring wells will be conducted in accordance with the Sampling and Analysis Plan, Appendix N of the Remedial Design as required by this SOW and in accordance with the ROD.

D. General Requirements

1. The Settling Work Defendant shall conduct the RD/RA in accordance with this SOW and consistent with the ROD, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300 *et seq*., the *Remedial Design/Remedial Action (RD/RA) Handbook* (U.S. EPA Office of Solid Waste and Emergency Response (OSWER), 9355.0-04B, EPA 540/R-95/059, June 1995), and all other guidance used by EPA in conducting a RD, a RA, O&M, and other required activities, such as accomplishment of investigations and studies in support of the Site five year review(s) of RA as directed by EPA. A list of primary guidance and reference material is attached (Attachment 3). In all cases, the Settling Work Defendant shall use the most recently issued guidance.

2. All plans, reports, and other deliverables required by the Consent Decree or this Statement of Work shall be submitted to EPA for review and approval in accordance with the Consent Decree, including Section XI (EPA Approval of Plans and Other Submissions) and Section XXVI (Notices and Submissions)) of the Consent Decree. The Settling Work Defendant has submitted design documents to conduct the RA as specified in the ROD. A summary of the major deliverables are attached (Attachments 1 and 2). The Settling Work Defendant shall submit future deliverables using the form Transmittal of Documents for Acceptance by EPA (Attachment 4).

3. The Settling Work Defendant shall furnish all necessary and appropriate personnel, materials, and services needed for, or incidental to, performing and completing the RD/RA.

4. The Project Coordinator for the Settling Work Defendant or Supervising Contractor shall communicate at least monthly during the remedial action and weekly until completion of the ISCO remedy in the CR 216 West Area. After the designation of the Technical Impracticability Waiver Zone, the Supervising Contractor shall communicate periodically as defined by the Remedial Project Manager (RPM), who is the EPA Project Coordinator, either in face-to-face meetings, through conference calls, or through electronic mail, unless

otherwise agreed to in writing. The Settling Work Defendant shall document all decisions that are made in meetings and conversations with EPA. The Settling Work Defendant shall forward this documentation to the RPM within five working days of the meeting or conversation.

5. The Settling Work Defendant or Supervising Contractor shall prepare and send to the RPM monthly status reports documenting the status of each task, beginning in the month following entry of the Consent Decree and ending with the month following EPA approval of the Interim Remedy Completion Report, and thereafter as defined by the Remedial Project Manager.

6. The Settling Work Defendant and the Settling Work Defendant's Supervising Contractor shall attend periodic project meetings and community relations events as requested by EPA, unless otherwise agreed to in writing or through e-mail. Such meetings and events shall be attended by at least one representative of EPA, EPA's Oversight Contractor, and/or the Texas Commission on Environmental Quality (TCEQ). The Settling Work Defendant and the Settling Work Defendant's Supervising Contractor shall also attend quarterly construction meetings at the Site with EPA, unless otherwise agreed in writing or through e-mail. The Settling Work Defendant shall provide documentation of all meeting results and shall transmit monthly progress reports to EPA either directly or through the Settling Work Defendant's Supervising Contractor.

7. EPA will provide oversight of Settling Work Defendant activities throughout the RD and RA. EPA's review and approval of deliverables is administrative in nature and allows the Settling Work Defendant to proceed to the next steps in implementing the work. EPA's approval does not imply any warranty of performance, nor does it imply that the remedy, when constructed, will meet Performance Standards, nor does it imply that the remedy will function properly and be accepted by EPA. Acceptance of plans, specifications, and design-required submittals (e.g., shop drawings, design details) by EPA does not relieve the Settling Work Defendant or their contractors of responsibility for the adequacy of the design or from their professional responsibilities.

8. The Settling Work Defendant shall maintain all technical and financial records for the RD/RA in accordance with the Retention of Records requirements of the Consent Decree.

9. The Settling Work Defendant shall provide office space for the EPA Project Coordinator and EPA-authorized oversight officials at the Site if the Settling Work Defendant or their contractors have office space at the Site. If no office space is established at the Site, the Settling Work Defendant shall provide office space for the EPA Project Coordinator and EPA-authorized Oversight officials in proximity to the Settling Work Defendant's field-operation office near the Site. Minimum office requirements shall include an air-conditioned, heated, well-lighted, private office, one office desk with chair, one four-drawer file cabinet, a telephone with a private line, and a second phone line for computer Internet access. In addition, Settling Work Defendant shall provide access to a facsimile transmission machine, a photocopier, and sanitation facilities. The Settling Work Defendant shall also provide the field operation office with a refrigerator, a table to review full sized drawings, and other reasonable accessories needed to conduct oversight activities.

10. Site Redevelopment. EPA understands that the Settling Work Defendant has no plans for the redevelopment of the site; instead, it is the intent of the Settling Work Defendant to implement deed restrictions for both the CR 126 West Area and the Bayou Disposal Area that would require preapproval from the EPA and TCEQ before any construction activity on the subject properties. EPA has no objection to the Settling Work Defendant's use of the Site for a non-residential purpose, provided that EPA approves such use and determines in writing prior to the commencement of any such redevelopment that such use will not interfere with or adversely affect the implementation, integrity or protectiveness of the remedial measures to be performed pursuant to the Consent Decree. Further, such redevelopment of any area of the Site may only commence in compliance with the ROD, the SOW and the Consent Decree

E. Remedial Design

Tasks 1 through 9 in this section apply to future contingent response measures as appropriate for the County Road 126 West and Bayou Disposal Area that may be required in the future (referred hereinafter as future response measures) in accordance with the ROD. Task 2 (Community Relations) and Task 9 (Final Remedial Design) applies to both future response measures as well as the remedial actions for the County Road 126 West and Bayou Disposal Area as selected in the ROD and as required by the Consent Decree.

1. Task 1 Project Planning and Support

The purpose of this task is to determine how the site-specific RAOs and performance standards, as specified in the ROD will be met. The following activities shall be performed as part of the project planning task:

1.1 Supervising Contractor
The Settling Work Defendant shall designate a Supervising Contractor in accordance with the Consent Decree.

1.2 Attend Scoping Meeting
The Settling Work Defendant shall contact the EPA RPM within fifteen calendar days after receipt of the authorization to proceed, as described in the Consent Decree, to schedule the scoping meeting. The Settling Work Defendant shall attend a scoping meeting to be held at the EPA Region 6 Office in Dallas, TX, before or concurrent with developing the Remedial Design Work Plan.

1.3 Conduct Site Visit
The Settling Work Defendant shall conduct a one-day site visit during the project planning phase to develop a conceptual understanding of the Site and the RD scope and requirements. Information gathered during the visit shall be used to better scope the project and to help determine the extent of additional data necessary to implement the RD. The Settling Work Defendant shall prepare a report that documents all EPA, Settling Work Defendant, and site personnel present at the visit; all decisions made during the visit; any action items assigned, including person responsible and due date; any unusual occurrences during the visit; and any portions of the Site that were not accessible to the Settling Work Defendant and the effect of this on the RD. This report shall be submitted to the EPA RPM within 10 calendar days of the Site visit.

1.4 Evaluate Existing Data and Documents

The Settling Work Defendant shall if necessary obtain, copy (if necessary), and evaluate existing data and documents, including the Remedial Investigation/Feasibility Study (RI/FS), the ROD, and other data and documents as needed to prepare the RD. This information shall be used to determine if any additional data are needed for RD implementation. The documents available for review are listed in the Administrative Record Index for the Site.

1.5 Develop Draft Work Plan

The Settling Work Defendant shall prepare and submit a RD Work Plan in accordance with the Consent Decree, and the appropriate EPA guidance. The Settling Work Defendant shall submit two hard copies of the Draft Work Plan to the RPM and one copy to the State of Texas. An electronic copy on CD shall also be submitted to EPA and the State in MS Word® and Adobe Acrobat® in the format provided by the RPM. The Work Plan shall include a comprehensive description of the additional data collection and evaluation of activities to be performed, if any, and the plans and specifications to be prepared. A comprehensive design management schedule for completion of each major activity and submittal shall also be included. Each task and subtask shall be presented in the work breakdown structure (WBS) format (Attachment 5). Specifically, the Work Plan shall include the following:

1.5.1 Develop Narrative

The RD Work Plan shall include a comprehensive description of project tasks, the procedures to accomplish them, project documentation, and project schedule. The Settling Work Defendant shall utilize their quality assurance/quality control (QA/QC) systems and procedures to assure that the work plan and other deliverables are of professional quality requiring only minor revisions.

1.5.2 Background

A background summary setting forth: (1) a brief description of the Site including the geographic location and a description of the physiographic, hydrologic, geologic, demographic, ecological, cultural, and natural resource features of the Site; (2) a brief synopsis of the history of the Site including a summary of past disposal practices and a description of previous responses that have been conducted by local, State, Federal, or private parties at the Site; and, (3) a summary of the existing data including physical and chemical characteristics of the contaminants identified and their distribution among the environmental media at the Site.

1.5.3 Task Narrative

Identification of RD project elements including planning and activity reporting documentation; field sampling and analysis activities, and treatability study activities. Output for each task will be a detailed work breakdown structure of the RD in accordance with the work breakdown structure in this statement of work and include: the Settling Work Defendant's technical and management approach to each task to be performed, including a detailed description of each task; the assumptions used; the identification of any technical uncertainties (with a proposal for the resolution of those uncertainties); the information needed for each task; any information to be produced during and at the conclusion of each task; and, a description of the work products that will be submitted to EPA. The Settling Work Defendant shall identify any subcontractor(s) it plans to use to accomplish all or part of a task's objectives if known at the time. If the need for additional subcontractors is determined during the implementation of the RD Work Plan, EPA will be notified prior to their use.

1.5.4 Schedule

A schedule with specific dates for completion of each required activity and submission of each deliverable required by the SOW shall be provided. This schedule shall also include information regarding timing, initiation, and completion of all critical path milestones for each activity and deliverable and the expected review time for EPA. Copies of the schedule shall be submitted to EPA electronically in Microsoft ® Project®.

1.6 Negotiate and Revise Draft Work Plan

If the Settling Work Defendant finds that an ARAR or Performance Standard cannot be met, the Settling Work Defendant shall describe the issue and recommend technical solutions in a memo to the RPM. The Settling Work Defendant shall make revisions to the Work Plan as a result of EPA's comments and/or agreements. Two CDs and three hard copies (two for EPA and one for the State) of the final work plan shall be submitted within 30 days after receipt of EPA comments and in accordance with the schedule in Attachment 1.

1.7 Site-Specific Plans

The Settling Work Defendant shall make revisions to the site-specific Plans as a result of EPA's comments and/or agreements. Two CDs and three hard copies (two for EPA and one for the State) of the final site-specific plans shall be submitted within 30 days after receipt of EPA comments and in accordance with the schedule in Attachment 1.

1.7.1 Site Management Plan (SMP)

The Settling Work Defendant shall prepare a SMP that provides EPA with a written understanding of how access, security, contingency procedures, management responsibilities, and waste disposal are to be handled.

1.7.1.1 Pollution Control and Mitigation Plan (PCMP)

The Settling Work Defendant shall prepare a PCMP that outlines the process, procedures, and safeguards that will be used to ensure contaminants or pollutants are not released off-site.

1.7.1.2 Waste Management Plan (WMP)

The Settling Work Defendant shall prepare a WMP that outlines how wastes that are encountered during the RD will be managed and disposed. The Settling Work Defendant shall specify the procedures that will be followed when wastes are managed including onsite and offsite storage, treatment, and/or disposal.

1.7.1.2.1 Decontamination Plan

A plan that describes the equipment and methods that will be used for decontamination procedures shall be included in the WMP.

1.7.1.2.2 Water Control Plan

A plan that addresses methods for collection, treatment, disposal or discharge of decontamination water, dust control water, and storm water, and other surface water shall be included in the WMP.

1.7.2 Health and Safety Plan (HASP)

The Settling Work Defendant shall prepare a Site specific HASP that specifies employee training, protective equipment, medical surveillance requirements, standard operating procedures, and an emergency response plan in accordance with 40 C.F.R. 300.150 of the NCP and 29 C.F.R. 1910.120 1(1) and (1)(2). A task-specific section of the HASP must also be included to address health and safety requirements for Site visits. The emergency response plan describes how to handle emergencies at the Site and minimize risks associated with a response. This response plan shall be reviewed and rehearsed regularly, and a copy shall be provided to local emergency response facilities.

1.7.3 Sampling and Analysis Plan

1.7.3.1 Quality Assurance Project Plan (QAPP)

The Settling Work Defendant shall prepare a QAPP in accordance with EPA QA/R-5 (latest draft or revision). The QAPP shall describe the project objectives and organization, functional activities, and quality assurance/quality control (QA/QC) protocols that shall be used to achieve the desired Data Quality Objectives (DQOs). The DQOs shall, at a minimum, reflect use of analytical methods for identifying contamination and addressing contamination consistent with the levels for RAOs identified in the National Contingency Plan.

1.7.3.2 Field Sampling Plan (FSP)

The Settling Work Defendant shall prepare a Field Sampling Plan (FSP) that defines the sampling and data collection methods that shall be used for the project. The FSP shall include sampling objectives; sample locations and frequency; sampling equipment and procedures; sample handling and analysis; and a breakdown of samples to be analyzed through Contract Laboratory Program (CLP) and other sources, as well as the justification for those decisions. The FSP shall consider the use of all existing data and shall justify the need for additional data whenever existing data will meet the same objective. The FSP shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required.

1.7.3.3 Data Management Plan

The Settling Work Defendant shall prepare a Data Management Plan that outlines the procedures for storing, handling, accessing, retaining and securing data collected during the RD.

1.7.4 Contingency Plan

The Settling Work Defendant shall prepare a contingency plan that will provide contingency measures for potential spills and discharges from materials handling or transportation. It shall describe methods, means, and facilities required to prevent contamination of soil, water, atmosphere, uncontaminated structures, equipment or material from the discharge of waste due to spills. The Settling Work Defendant shall provide for equipment and personnel to perform emergency measures required to contain a spill and to remove and properly dispose of any media that become contaminated due to spillage, and provide for equipment and personnel to perform decontamination measures that may be required to remove spillage from previously uncontaminated structures, equipment, or material.

1.7.5 Construction Quality Assurance Project Plan (CQAPP)

The Settling Work Defendant shall prepare a draft Construction Quality Assurance Project Plan (CQAPP). The CQAPP Plan shall be prepared in accordance with "Construction Quality Assurance for Hazardous Waste Land Disposal Facilities" (EPA, October, 1986). At a minimum, the draft CQAPP Plan shall provide the following elements:

1.7.5.1 Personnel

Responsibility and authority of all organization and key personnel involved in the Remedial Action construction.

1.7.5.2 CQAPP Personnel Qualifications

The Settling Work Defendant shall establish the minimum qualifications of the CQAPP Officer and supporting inspection personnel.

1.7.5.3 Inspection Activities

The Settling Work Defendant shall establish the observations and tests that will be required to monitor the construction and/or installation of the components of the Remedial Action. The plan shall include the scope and frequency of each type of inspection to be conducted. Inspections shall be required to verify compliance with environmental requirements and include, but not be limited to, air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. Inspections shall also ensure compliance with all health and safety procedures.

1.7.5.4 Sampling Requirements

The Settling Work Defendant shall establish the requirements for sampling activities, sample size, sample locations, frequency of testing, criteria for acceptance and rejection, and plans for correcting problems as addressed in the project specifications.

1.7.5.5 Documentation

The Settling Work Defendant shall describe the reporting requirements for CQAPP activities. This shall include such items as daily summary reports and inspection data sheets.

2. Task 2 Community Relations

The EPA will conduct community relations activities throughout the RD and implementation of the RA. The Settling Work Defendant shall provide community relations support to EPA throughout the RD/RA in accordance with *Community Relations in Superfund, A Handbook*, April 2002. The Settling Work Defendant shall make revisions to the existing Site Community Relations Plan (CRP) as a result of EPA's comments and/or agreements and submit a final Community Relations Plan. Two CDs and three hard copies (two for EPA and one for the State) of the final CRP shall be submitted within 30 days after receipt of EPA comments and in accordance with the schedule in Attachment 1.

2.1 Community Relations Plan

The Settling Work Defendant shall update and revise the community relations plan (CRP) to include community relations requirements and community concerns during the RD.

2.2 Community Meeting Support

2.2.1 Logistical and Presentation Support

The Settling Work Defendant shall make the arrangements for public meetings/ availability sessions/open houses including the selection and reservation of a meeting space, provide recording and/or stenographic support, prepare draft and final meeting summaries, prepare presentation materials/handouts (i.e., transparencies, slides, and handouts as instructed by EPA).

2.2.2 Technical Support

The Settling Work Defendant shall provide technical support for community relations, including community meetings. This support may include preparing technical input to news releases, briefing materials, other community relations vehicles, arranging for Site tours upon request, and helping the RPM to coordinate with local agencies as requested.

2.3 Fact Sheet Preparation

The Settling Work Defendant shall prepare fact sheets that inform the public about activities related to the final design, a schedule for the RA, activities to be expected during construction, measures to be taken to protect the community, provisions for responding to emergency releases and spills, any potential inconveniences such as excess traffic and noise that may affect the community during the RA, and other topics as required by the EPA RPM. As needed, fact sheets shall be prepared and reviewed by EPA during the RD to keep the community informed of ongoing Site activities. The EPA will determine the final content of the fact sheets.

2.4 Information Repositories

The Settling Work Defendant shall maintain the existing Public Library repository with information on activities related to the RD/RA as described in Community Relations in Superfund: A Handbook, April 2002.

3. Task 3 Data Acquisition

Data acquisition entails collecting environmental samples and information required to support the RD, as needed. Data acquisition starts with EPA's approval of the FSP and ends with the demobilization of field personnel and equipment from the Site.

The Settling Work Defendant shall perform, as needed to prepare the RD for the Site, the following field activities or combination of activities for data acquisition in accordance with the EPA-approved FSP and QAPP. Before beginning field activities, EPA, State, and Settling Work Defendant shall hold an initial meeting with all principal personnel to clarify objectives, communication channels, and related matters.

3.1 Mobilization and Demobilization

The Settling Work Defendant shall provide the necessary personnel, equipment, and materials for mobilization and demobilization to and from the Site for the purpose of conducting the sampling program.

3.1.1 Identify Field Support Equipment, Supplies, and Facilities
3.1.2 Mobilization
3.1.3 Site Preparation
3.1.4 Installation of Utilities
3.1.5 Construction of Temporary Facilities
3.1.6 Demobilization

3.2 Field Investigation
The Settling Work Defendant shall conduct environmental sampling as needed to prepare the RD.

4. Task 4 Sample Analysis

The Settling Work Defendant shall arrange for the analysis of environmental samples collected during the previous task, as needed to prepare the RD. The sample analysis task begins with selection of the analytical laboratory and the completion of the field sampling program. This task ends with the Settling Work Defendant validating the analytical data received from the laboratory.

The Settling Work Defendant shall, as needed to prepare the RD, perform the following activities or combination of activities to analyze test results.

4.1 Screening-Type Laboratory Sample Analysis
The Settling Work Defendant shall perform as needed to prepare the RD. The samples collected shall be analyzed for Organic and Inorganic constituents.

4.2 CLP-Type Laboratory Sample Analysis
The Settling Work Defendant shall perform as needed to prepare the RD. The samples collected shall be analyzed for Organic and Inorganic constituents.

5. Task 5 Analytical Support and Data Validation

The Settling Work Defendant shall arrange for the validation of environmental samples collected during the previous task. The sample validation task begins with the completion of the field sampling program and ends with the Settling Work Defendant validating the analytical data received from the laboratory. The Settling Work Defendant shall perform appropriate data validation to ensure that the data are accurate and defensible.

The Settling Work Defendant shall perform, as needed to prepare the RD, the following activities or combination of activities to validate test results.

5.1 Prepare and Ship Environmental Samples
The Settling Work Defendant shall collect, prepare and ship environmental samples in accordance with the FSP and QAPP.

5.2 Implement EPA-Approved Laboratory QA Program

5.3 Provide Sample Management (Chain of Custody, Sample Retention, and Data Storage)
The Settling Work Defendant shall ensure the proper management of samples and accurate chain-of-custody procedures for sample tracking, protective sample packing techniques, and proper sample-preservation techniques.

5.4 Coordinate with Appropriate Sample Management Personnel

5.5 Data Validation Support
The Settling Work Defendant shall ensure that proper data validation procedures, the process by which the quality of the data, the defensibility of the data, and the chain of custody, are verified.

6. Task 6 Data Evaluation

The Settling Work Defendant shall organize and evaluate existing data and data gathered during the previous tasks that will be used later in the RD effort. Data evaluation begins with the receipt of analytical data from the data acquisition task and ends with the submittal of the Data Evaluation Summary Report. Specifically, the Settling Defendant shall perform the following activities or combination of activities during the data evaluation effort:

6.1 Data Usability Evaluation and Field QA/QC
The Settling Work Defendant shall evaluate the usability of the data.

6.2 Data Reduction, Tabulation, and Evaluation
The Settling Work Defendant shall evaluate, interpret, and tabulate data in an appropriate presentation format for final data tables. The Settling Work Defendant shall design and set up an appropriate database for pertinent information collected that will be used during the RD.

6.3 Modeling
The Settling Work Defendant shall utilize the appropriate computer models necessary to complete the RD.

6.4 Develop Data Evaluation Report
The Settling Work Defendant shall evaluate and present results in a Data Evaluation Summary Report (to be included in the Prefinal design) and submit to the RPM for review and approval.

7. Task 7 Treatability Study and Pilot Testing

The purpose of the Treatability Study is to provide sizing and operations criteria that are used in design drawings and specifications and in the engineer's cost estimate to optimize the RD. The task begins with the preparation of a Treatability Study Work Plan that provides the technical specifics of the study and ends with the Settling Defendant's submittal of the Treatability Study Evaluation Report which is to be included in the Prefinal Design package. In some instances, information on technology performance can be found in the current literature and should be reviewed before the Treatability Study is designed. The Treatability Study Work Plan required in Task 7.2 shall include both treatability work that is in progress and projected treatability work.

The three levels of treatability studies are laboratory screening, bench-scale testing, and pilot-scale testing. The laboratory screening is used to establish the validity of a technology to treat waste and is normally conducted during the FS. Bench-scale testing is used to identify the performance of the technology specific to a type of waste for an operable unit. Often bench-scale tests are conducted during the FS. Pilot-scale testing is used to provide quantitative performance, cost, and design information for remediation and is typically performed during RD (see the Fact Sheet, *Guide for Conducting Treatability Studies Under CERCLA*, November, 1993).

In accordance with the design management schedule established in the approved RD Work Plan, the Settling Work Defendant shall perform the following activities, as needed to prepare the RD. The Settling Work Defendant shall make revisions to the treatability study work plan as a result of EPA's comments and/or agreements. Two CDs and three hard copies (two for EPA and one for the State) of the final treatability study work plan shall be submitted within 30 days after receipt of EPA comments and in accordance with the schedule in Attachment 1.

7.1 Literature Search

The Settling Work Defendant shall conduct a literature search.

7.2 Develop Treatability Study Work Plan

The Settling Work Defendant shall prepare the Treatability Study Work plan and submit it to the RPM for review. The Treatability Study Work Plan shall describe the technology to be tested, test objectives, test equipment or systems, experimental procedures, treatability conditions to be tested, measurements of performance, analytical methods, data management and analysis, health and safety procedures, and residual waste management. The DQOs for the treatability study shall also be documented.

If testing is to be performed off-site, permitting requirements shall be addressed. A schedule for performing the treatability study shall be included with specific dates for each task and subtask, including EPA review periods.

The Treatability Study Work Plan shall be consistent with the schedule in the RD Work Plan. The Treatability Study Work Plan shall describe in detail the treatment process and how the proposed vendor or technology will meet the performance standards for the Site. The Treatability Study Work Plan shall address how the Settling Defendant will meet all discharge or disposal requirements for any and all treated material, air, water, and expected effluents. Additionally, the Work Plan shall explain the proposed final treatment and disposal of all material generated by the proposed treatment system.

The Settling Work Defendant shall conduct the Treatability Studies, as necessary, to determine whether the remediation technology or vendor of the technology can achieve the performance standards. Treatability studies shall be conducted as described in the EPA-approved Final Treatability Study Work Plan. The following activities may be required during the performance of the treatability study.

7.3 Bench Test, Pilot-Scale Test, Field Test

The Settling Work Defendant shall conduct a bench test, pilot-scale test, and field test.

7.3.1 Procure Test Facility and Equipment

The Settling Work Defendant shall procure test facility and equipment, including the procurement procedures necessary to acquire the vendor, equipment, or facility to execute the tests.

7.3.2 Provide Vendor and Analytical Service

The Settling Work Defendant shall provide vendor and analytical services.

7.3.3 Test and Operate Equipment

The Settling Work Defendant shall test equipment to ensure operation, then start up and operate equipment.

7.3.4 Retrieve Sample for Testing

The Settling Work Defendant shall obtain samples for testing as specified in the Treatability Work Plan.

7.3.5 Perform Laboratory Analysis
The Settling Work Defendant shall identify a laboratory that can provide fast-turnaround analysis of test samples, if required.

7.3.6 Characterize and Dispose of Residuals
The Settling Work Defendant shall characterize and dispose of residuals.

7.4 Develop Treatability Study Report
The Settling Work Defendant shall prepare and submit the Treatability Study Evaluation Report that describes the performance of the technology. The study results shall clearly indicate the performance of the technology or vendor compared with the performance standards established for the Site. The report shall also evaluate the treatment technology's effectiveness, implementability, cost, and final results compared with the predicted results. The report shall also evaluate full-scale application of the technology, including a sensitivity analysis identifying the key parameters affecting full-scale operation. The Settling Work Defendant shall make revisions to the treatability study report as a result of EPA's comments and/or agreements. Two CDs and three hard copies (two for EPA and one for the State) of the final treatability study report shall be submitted within 30 days after receipt of EPA comments and in accordance with the schedule in Attachment 1.

8. Task 8 Prefinal Remedial Design

At this stage, the Settling Work Defendant shall have field-verified the existing conditions of the Site, as necessary. The Settling Work Defendant shall provide supporting data and documentation with the design documents defining the functional aspects of the project to prove that the completed project will be effective in meeting the RGs and applicable or relevant and appropriate requirements (ARARs). In accordance with the schedule established in the RD Work Plan, the Settling Work Defendant shall submit to EPA the Prefinal Design, which shall consist of the following:

8.1 Prefinal Design
The Settling Work Defendant shall prepare a Prefinal Design Report that will define in detail the technical parameters upon which the design will be based and shall function as the draft version of the Final Design. Specifically, the Prefinal Design Report shall include the design assumptions and parameters, including (1) waste characterization; (2) pretreating requirements; (3) volume and types of each medium requiring treatment; (4) treatment schemes (including all media and byproducts), rates, and required qualities of waste streams (i.e., input and output rates, influent and effluent qualities, potential air emissions, and so forth); (5) performance standards; (6) long-term performance monitoring and operations and maintenance (O&M) requirements; (7) compliance with all ARARs, pertinent codes, and standards; and, (8) technical factors of importance to the design and construction including use of currently accepted environmental control measures, constructability of the design, and use of currently acceptable construction practices and techniques. In addition, the Prefinal Design Report shall include the following:

8.1.1 Prefinal Project Delivery Strategy and Scheduling
The schedule shall include an evaluation of a phased approach to expedite the RA.

8.1.2 Prefinal Construction Schedule
A preliminary RA schedule appropriate to the size and complexity of the project shall be included in the plans and specifications. It shall identify the timing for initiation and completion of all critical path tasks and specifically identify duration for completion of the project and major milestones.

8.1.3 Prefinal Specifications Outline

The general specifications outline shall include all specification sections to be used. The plan shall include specifications for construction, installation, Site preparation, and field work standards.

8.1.4 Prefinal Design Drawings and Specifications

The drawings and schematics shall reflect organization and clarity. The prefinal design shall include (1) an outline or listing of drawings and schematics; (2) facility representations including a process flow diagram and a prefinal piping and instrumentation diagram; (3) a general arrangement diagram; (4) complete set of construction drawings and specifications (general specifications, drawings, and schematics); and (5) site drawings. Engineering drawings shall be submitted in full size and half size reproductions.

8.1.5 Prefinal Basis of Design Report

The Settling Work Defendant shall submit as part of the Prefinal Design a detailed description of the evaluations conducted to select the design approach as part of the Basis of Design Report. This report shall include:

8.1.5.1 Summary and Detailed Justification of Assumptions

(1) calculations supporting the assumptions; (2) a draft process flow diagram; (3) a detailed evaluation of how all ARARs will be met; (4) a plan for minimizing environmental and public impacts; and (5) heat and mass balances.

8.1.5.2 Recommended RA Contracting Strategy

The report shall address the management approach for procuring the RA contractor, including procurement methods, phasing alternatives, and contractor and equipment availability concerns.

8.1.5.3 Plan for Satisfying Permitting Requirements

The report shall incorporate EPA comments into an updated Permits Plan.

8.1.5.4 Identification of Easement and Access Requirements

The need for land acquisitions for access and easement requirements shall be identified and submitted as part of the Prefinal Design.

8.1.6 Prefinal Air Monitoring Plan

The Settling Work Defendant shall submit as part of the Prefinal Design an air monitoring plan to meet the goal of the ROD for monitoring and controlling air emissions for the Site. The plan shall be in compliance with all air monitoring requirements identified in the ROD. The plan shall identify any additional information and locations that may be needed to meet the air monitoring objectives for the Site.

8.1.7 Prefinal Surface Water and Ground Water Monitoring Plan

The Settling Work Defendant shall prepare a surface water and ground water monitoring plan to ensure that runoff control measures are being met. The plan shall identify ground water monitoring wells and surface water locations that will be sampled as well as the objectives that will be met.

8.1.8 Prefinal Data Evaluation Report
The Settling Work Defendant shall evaluate and present results in a Data Evaluation Summary Report.

8.1.9 Prefinal Draft Operations and Maintenance (O&M) Plan
The manual shall include the following:

An operations and maintenance plan that includes a description of normal operation and maintenance including start-up procedures, tasks for operation, tasks for maintenance, prescribed treatment or operation conditions, long term ground water monitoring and schedule for each O&M task.

A description of potential operating problems including common and/or anticipated remedies and useful-life analysis of significant components and replacement costs.

Quality Assurance Plan for O&M includes a description of routine monitoring tasks, description of required laboratory tests and their interpretation, required data collection, and location of monitoring points comprising the points of compliance monitoring.

Alternate procedures to prevent releases or threatened releases of hazardous substances, pollutants, or contaminants, which may endanger health and the environment or cause an exceedence of any cleanup standard.

Corrective action to be implemented in the event that cleanup standards for ground water, surface water discharges, and air emissions are exceeded and a schedule for implementing these corrective actions.

Safety Plan for O&M including a description of precautions and necessary equipment for Site personnel, safety tasks required in event of systems failure, and safety tasks necessary to address protection of nearby residents.

Description of equipment including the equipment identification numbers, installation of monitoring components, maintenance of site equipment, and replacement schedule for equipment and installed components.

Records and reporting mechanisms required including daily operating logs, laboratory records, records for operating costs, mechanism for reporting emergencies, personnel and maintenance records, and reports to EPA, its designates, and the State.

8.1.10 Prefinal Contingency Plan
The Settling Work Defendant shall develop a Contingency Plan.

8.1.11 Prefinal Field Sampling Plan
The Settling Work Defendant shall establish the FSP that defines the sampling and data collection methods that shall be used for the project to measure progress toward meeting RAOs, RGs, and Performance Standards established in the ROD. The FSP shall include sampling objectives; sample locations and frequency; sampling equipment and procedures; sample handling and analysis; and a breakdown of samples to be analyzed through Contract Laboratory Program (CLP) and other sources, as well as the justification

for those decisions. The FSP shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required.

8.2 Prefinal Biddability, Constructability, Operability Review

The Settling Work Defendant shall perform and submit a report describing the results of the following design reviews:

8.2.1 Initial Constructability Review

The Settling Work Defendant shall review and provide written comments for the Initial Constructability Review. The constructability review shall be conducted to evaluate the suitability of the proposed project and its components in relation to the project size.

8.2.2 Initial Biddability Review

The Settling Work Defendant shall review and provide written comments for the initial biddability review.

8.2.3 Initial Operability Review

The Settling Work Defendant shall review and provide written comments for the Initial Operability Review. The operability review shall assure that the completed project will conform to applicable performance and operations requirements.

8.2.4 Initial Environmental Review

The Settling Work Defendant shall review and provide written comments for the initial Environmental Review.

8.2.5 Initial Claims Prevention Screening

The Settling Work Defendant shall review and provide written comments for the Initial Claims Prevention Screening. The claims prevention review is to be conducted to eliminate conflicts, inconsistencies, ambiguities, errors, omissions, or other identifiable problems in the plans, specifications, and contract documents that are subject to change orders and contractor claims.

8.3 Describe Variances with the ROD

If the Settling Work Defendant finds that the Performance Standards in the ROD or ARARs cannot be met, the Settling Work Defendant shall describe the issue and recommend technical solutions in a memorandum to the RPM.

8.4 Land Acquisition and Easement Requirements

The need for land acquisition for access and easement requirements shall be identified and submitted as part of the Basis of Design Report; the Settling Work Defendant shall also identify access needs and locations.

8.5 Respond to Design Review Comments

The Settling Work Defendant shall consolidate and respond to design review comments. A written response to each comment shall be provided. The response shall indicate whether the Settling Work Defendant has decided to implement a design change as a result of the comment, and how the change will impact the selected remedy, RD/RA costs, and/or schedule. A summary of the responses to comments shall be submitted to the RPM prior to initiation of the Final Design. After EPA review and comment on the Prefinal Design, the Final Design shall be submitted. The design changes shall be incorporated under the Final Design task.

8.6 Participate in Prefinal Design Review or Briefing

The Settling Work Defendant shall participate in design review meetings to be held at EPA Region 6 offices (if needed).

The Settling Work Defendant shall implement QC procedures to ensure the quality of all reports and submittals to EPA. These procedures shall include, but are not limited to, internal technical and editorial review; the independent verification of all calculations used in the design; and the documentation of all reviews, the problems identified, and corrective actions taken.

9. Task 9 Final Remedial Design

The Settling Work Defendant submitted a Final Remedial Design in February 2007. If required, the Settling Work Defendant shall also submit a Final Remedial Design for future contingent response measures. All final design documents shall be approved by a professional engineer or professional geoscientist registered in Texas. The EPA approval of the final design is required before initiating the RA unless specifically authorized by EPA. The Settling Work Defendant shall make revisions to the final design as a result of additional EPA's comments and/or agreements. One CD and three hard copies of the final design shall be submitted to the EPA and the State within 60 days after receipt of EPA comments and in accordance with the schedule in Attachment 1 as may be revised in the future for contingent response measures.

If future response measures are determined by EPA to be necessary in accordance with the ROD and Consent Decree, then the Settling Work Dependant shall complete the following Final Remedial Design activities for such response measures.

9.1 Prepare Final Design Specifications

The final design plans and specifications shall be consistent with the technical requirements of all ARARs, except where waived by the EPA. Any off-site disposal shall be in compliance with the policies stated in the Procedure for Planning and Implementing Off-Site Response Actions (*Federal Register*, Volume 50, Number 214, November 1985 pages 45933–45937) and other applicable guidance.

General correlation between drawings and technical specifications is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications, the Settling Defendant's contractor shall coordinate and cross-check the specifications and drawings; and complete the proofing of the edited specifications and the cross-checking of all drawings and specifications.

9.1.1 Final Drawings and Specifications

The final submittals and future revisions shall include a complete set of construction drawings and specifications as well as a set of 8 x 11 reduced size reductions of drawings.

9.1.2 Final Basis of Design Report

The final basis of design report shall incorporate any changes since the Prefinal design submittal.

9.1.3 Final Air Monitoring Plan
The Settling Work Defendant shall prepare the final submittal incorporating EPA and TCEQ comments and/or changes recommended in the prefinal design or prefinal design meeting.

9.1.4 Final Construction Quality Assurance Project Plan
The Settling Work Defendant shall prepare the final submittal incorporating EPA and TCEQ comments and/or changes recommended in the pre-final design or pre-final design meeting.

9.1.5 Final Ground Water Monitoring Plan
The Settling Work Defendant shall prepare the final submittal incorporating EPA and TCEQ comments and/or changes recommended in the prefinal design or prefinal design meeting.

9.1.6 Final O&M Plan
The Settling Work Defendant shall prepare the final submittal incorporating EPA and TCEQ comments and/or changes recommended in the prefinal design or prefinal design meeting.

9.1.7 Final Contingency (Spill/Release) Plan
The Settling Work Defendant shall prepare the final submittal incorporating EPA and TCEQ comments and/or changes recommended in the prefinal design or prefinal design meeting.

9.1.8 Final Field Sampling Plan
The Settling Work Defendant shall prepare the final submittal incorporating EPA and TCEQ comments and/or changes recommended in the prefinal design or prefinal design meeting.

9.2 Participate in Final Design Review Meetings
The Settling Work Defendant shall participate in a Final Design review meeting to be held at the EPA Region 6 office.

9.3 Final Design Submittal
The Settling Work Defendant shall prepare the 100 percent design submittal incorporating EPA and TCEQ comments and/or changes recommended in the prefinal design or prefinal design meeting.

9.4 Final Biddability, Operability, and Constructability Reviews
The Settling Work Defendant shall conduct final constructability, biddability, operability, and environmental reviews and document the results.

9.5 Final Project Delivery Strategy and Construction Schedule
The Settling Work Defendant shall prepare a revised project delivery strategy reflecting changes agreed to during the prefinal design. A final schedule for implementation of the RA should be included.

F. Remedial Action

1. Task 1 Project Planning and Support

The purpose of this task is to plan for the execution and overall management of the RA for the Site. The technical and managerial activities required to implement the RA are developed during the planning phase and are detailed in the RA Work Plan The following activities shall be performed by the Settling Work Defendant as part of the project planning and support task for the RA for the FWRA and BDA.

1.1_ Supervising Contractor and Scoping Meetings

The Settling Work Defendant shall formally designate a Supervising Contractor in accordance with the Consent Decree. Before or concurrent with developing the RA Work Plan, the Settling Work Defendant and Supervising Contractor attended scoping meetings held at the EPA Regional Office or at the Site in conjunction with Site Visits.

1.2_ Conduct Site Visits

The Settling Work Defendant conducted a Site visit with the EPA and TCEQ RPMs and their designated representatives during the RA planning phase to assist in developing an understanding of the Site and any construction logistics. Information gathered during the visit was used to better scope the project and to implement the RA. A Health and Safety Plan (HASP) was required for the Site visit. The Settling Defendant shall prepare a report that documents the Site visit and any required action items or decisions. This report shall be submitted to the EPA RPM within 10 calendar days after the Site visit.

1.3_ Evaluate Existing Information

The Settling Work Defendant shall obtain, copy (if necessary), and evaluate existing data and documents, including the final Design Package, the RD Work Plan, the ROD, Remedial Investigation/Feasibility Study (RI/FS), Supplemental Focused Feasibility Study, and other data and documents as needed to implement the RA. This information shall be used to determine if any additional data are needed for implementation of the RA.

1.4_ Develop Draft RA Work Plan

The work plan shall include a detailed description of the technical approach and overall management strategy for the remediation, operations and maintenance, performance monitoring, and construction activities in accordance with the final design and ROD. The necessary procedures, inspections, deliverables, and schedules shall be specified. A comprehensive construction management schedule for completion of each major activity and submittal shall also be included. In addition, the work plan shall include information related to the execution of contracts for construction and the identification of and satisfactory compliance with permitting requirements.

1.4.1 Develop Narrative

The RA work Plan shall include a comprehensive description of project tasks, the procedures to accomplish them, project documentation, and project schedule. The Settling Work Defendant shall use its quality assurance/quality control (QA/QC) systems and procedures to assure that the work plan and other deliverables are of professional quality requiring only minor revisions.

1.4.2 Identify the Problems

A statement of the problem(s) and potential problem(s) posed by the Site and how the objectives of the completed RA will address the problem(s).

1.4.3 Task Narratives

The Settling Work Defendant's technical approach to each task to be performed, including a detailed description of each task; the assumptions used; the information needed for each task; any information to be produced during and at the conclusion of each task; and a description of the work products that will be submitted to EPA. Tasks and subtasks shall be presented in the WBS format (Attachment 5).

1.4.4 Schedule

The schedule for specific dates for completion of each required activity and submission of each deliverable required by this SOW (See Attachment 2). The detailed Remedial Action Schedule shall also include information about timing, initiation, and completion of all critical path milestones for each activity and deliverable and the expected review time for EPA.

1.4.5 Personnel

The RD/RAWP identified in Appendix K (Construction Quality Assurance Plan) the organizational structure for the RA which outlines the roles, relationships, and responsibilities and authority of all organizations and key personnel involved in the RA. A description of key project personnel's qualifications (project coordinator, resident engineer, quality assurance official, etc.) shall be provided prior to implementation of the RA.

1.5 Revise Draft Work Plan

The Settling Work Defendant shall make revisions to the Work Plan as a result of EPA's comments and /or agreements. Two CDs and three hard copies (two for EPA and one for TCEQ) of the final work plan shall be submitted within 21 days after receipt of EPA comments and in accordance with the schedule in Attachment 2.

1.6 Project Management

1.6.1 Maintain Schedule Control System

The Settling Work Defendant shall develop and maintain a system to monitor and control the schedule of the RA. The Settling Work Defendant shall specify the process to continuously update the information in the system as a result of engineering network analyses and changing field conditions. The system shall have the capability to compare technical progress and predict completion dates.

1.6.2 Coordinate with Local Emergency Response Teams

The Settling Work Defendant shall coordinate with local emergency responders to ensure the proper implementation of the HASP and specifically the Emergency Response Plan. The Settling Defendant shall review and complete the emergency responder agreement, if necessary, conduct a kickoff meeting at the Site with all local emergency responders, and notify the responders of any changes to the Emergency Response Plan throughout the RA.

2. Task 2 Community Relations

The EPA will conduct community relations activities throughout the RD and implementation of the RA. The Settling Work Defendant shall provide community relations support to EPA throughout the RD/RA in accordance with *Community Relations in Superfund, A Handbook*, April 2002. The Settling Defendant shall make revisions to the existing Site Community Relations Plan (CRP) as a result of EPA's comments and/or agreements and submit a final Community Relations Plan. Two CDs and three hard copies (two for EPA and one for TCEQ) of the final CRP shall be submitted within 30 days after receipt of EPA comments and in accordance with the schedule in Attachment 2.

2.1 Community Relations Plan

The Settling Work Defendant shall update and revise the community relations plan (CRP) to address community relations requirements and community concerns during the RA.

2.2 Community Meeting Support

2.2.1 Logistical and Presentation Support

The Settling Work Defendant shall make the arrangements for future public meetings/availability sessions/open houses including the selection and reservation of a meeting space, provide recording and/or stenographic support, prepare draft and final meeting summaries, prepare presentation materials/handouts (i.e., transparencies, slides, and handouts as instructed by EPA).

2.2.2 Technical Support

The Settling Work Defendant shall provide technical support for community relations, including community meetings. This support may include preparing technical input to news releases, briefing materials, other community relations vehicles, arranging for Site tours upon request, and helping the RPM to coordinate with local agencies as requested.

2.3 Fact Sheet Preparation

The Settling Work Defendant shall prepare future fact sheets that inform the public about activities related to the final design, a schedule for the RA, activities to be expected during construction, measures to be taken to protect the community, provisions for responding to emergency releases and spills, any potential inconveniences such as excess traffic and noise that may affect the community during the RA, and other topics as required by the EPA RPM. As needed, fact sheets shall be prepared and reviewed by EPA during the RA to keep the community informed of ongoing Site activities. The EPA will determine the final content of the fact sheets.

2.4 Information Repositories

The Settling Work Defendant shall maintain the existing Liberty, Texas, Public Library repository with information on activities related to the RD/RA as described in Community Relations in Superfund: A Handbook, April 2002.

3. Task 3 Update Site Specific Plans

The purpose of this task is to review the existing site-specific plans that were prepared during the RD, and update, as necessary, to implement the RA. Plans not prepared during the RD, but needed to implement the RA, were prepared by the Settling Work Defendant under this task. Two CDs and three hard copies (two for EPA and one for TCEQ) of the final site-specific plans were submitted in accordance with the

schedule in Attachment 2. This task begins with approval of the RA Work Plan and will occur throughout the duration of the work assignment. The Settling Work Defendant has the overall responsibility to prepare, update, and/or maintain the necessary site-specific plans for implementation of the RA. Since the Settling Work Defendant and any of its contractors or subcontractors will prepare their own RA plans, the Settling Work Defendant will incorporate the plans and procedures received from any of its contractors or subcontractors into the overall Site plans. Construction plans and procedures are living documents and the Settling Work Defendant's contractors shall update the appropriate plans, as necessary, throughout the RA.

3.1 Update Site Management Plan (Section 4 of the Remedial Action Work Plan)
The Settling Work Defendant shall update as necessary the Site Management Plan (SMP) that was prepared during the RD. This plan provides EPA with a written understanding of how access, security, health and safety, contingency procedures, management responsibilities, and waste disposal are to be handled during construction as well as the identification of and satisfactory compliance with permitting requirements. The Settling Defendant shall update the plan, as necessary, to incorporate any of its contractors' or subcontractors' plans.

3.1.1 Pollution Control and Mitigation Plan (PCMP) (Appendix E of the Remedial Design)
The Settling Work Defendant shall update as necessary the PCMP that outlines the process, procedures, and safeguards that will be used to ensure contaminants or pollutants are not released off-site. Any plans and procedures prepared during the RD should be referenced or adapted whenever possible (i.e, sediment and erosion control plan and air monitoring plan).

3.1.2 Waste Management Plan (WMP) (Appendix F of the Remedial Design)
The Settling Work Defendant shall update as necessary the WMP that outlines how wastes that are encountered during the RA will be managed and disposed. The Settling Defendant shall specify the procedures that will be followed when wastes are managed including onsite and offsite storage, treatment, and/or disposal.

3.1.2.1 Decontamination Plan (Section 13 of Appendix H of the Remedial Design)
A plan that describes the equipment and methods that will be used for decontamination procedures was included in the WMP and shall be updated as necessary.

3.1.2.2 Water Control Plan (Appendices D and E of the Remedial Design)
A plan that addresses methods for collection, treatment, disposal or discharge of decontamination water, dust control water, storm water, and other surface water was included in the WMP and shall be updated as necessary.

3.2 Update Health and Safety Plan (Appendix H of the Remedial Design)
The Settling Work Defendant shall update as necessary the Health and Safety Plan (HASP) for RA activities to be prepared in conformance with applicable Occupational Safety and Health Administration (OSHA) and EPA requirements, including 29 C.F.R. 1910. EPA shall not approve or disapprove the Health and Safety Plan, but shall review it to assure its existence and shall require compliance by Settling Work Defendant with its terms as part of the Consent Decree.

The Settling Work Defendant shall update the site specific Health and Safety Plan (HASP) that specifies employee training, protective equipment, medical surveillance requirements, standard operating procedures and a contingency plan in accordance with 29 C.F.R. 1910.120 (l)(1) and

(l)(2). The plan shall address employee training, protective equipment, medical surveillance requirements, standard operating procedures, and a contingency plan in accordance with 40 C.F.R. 300.150 of the NCP and 29 C.F.R. 1910.120 1(1) and (1)(2). Whenever possible, refer to the HASP developed for the RD when preparing the HASP for the RA. The task-specific HASP will be updated as necessary to address health and safety requirements for future Site visits.

3.3 Update Sampling and Analysis Plan (SAP) (Appendix N of the Remedial Design)
The Settling Work Defendant shall update as necessary the sampling and analysis plan to reflect the specific objectives of any data acquisition conducted during construction. The SAP will outline the data collection and quality assurance requirements of any sampling an analysis conducted by the Settling Work Defendant.

3.3.1 Quality Assurance Project Plan (Appendix N, Part 2 of the Remedial Design)
The Settling Work Defendant shall update as necessary the QAPP in accordance with EPA QA/R-5 (latest draft or revision). The QAPP shall describe the project objectives and organization, functional activities, and quality assurance/quality control (QA/QC) protocols that shall be used to achieve the desired Data Quality Objectives (DQOs). The DQOs shall, at a minimum, reflect use of analytical methods for identifying contamination and addressing contamination consistent with the levels for RGs identified in the ROD consistent with the National Contingency Plan. The QAPP developed for the RD and/or RI/FS should be referenced or adapted whenever possible when preparing the QAPP for the RA.

3.3.2 Field Sampling Plan (FSP) (Appendix N of the Remedial Design)
The Settling Work Defendant shall update as necessary the FSP that defines the sampling and data collection methods that shall be used for the project to measure progress toward meeting RAOs, RGs, and Performance Standards established in the ROD. The FSP shall include sampling objectives; sample locations and frequency; sampling equipment and procedures; sample handling and analysis; and a breakdown of samples to be analyzed through Contract Laboratory Program (CLP) and other sources, as well as the justification for those decisions. The FSP shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. The FSP developed for the RD and/or RI/FS should be referenced or adapted whenever possible when preparing the FSP for the RA.

3.3.3 Data Management Plan (Appendix N, Part 3 of the Remedial Design)
The Settling Work Defendant shall update as necessary the Data Management Plan that outlines the procedures for storing, handling, accessing, and securing data collected during the RA.

3.4 Update Air Monitoring Plan (Appendix L of the Remedial Design)
The Settling Work Defendant shall update as necessary the Air Monitoring Plan to provide a comprehensive outline of the air monitoring procedures and protocols for the RA, including: i) baseline air quality monitoring; ii) onsite/offsite air monitoring (including fugitive dust and personal monitoring); iii) sample collection methodology; iv) laboratory analytical protocol; and, v) air monitoring trigger levels and corrective actions.

3.4.1 Dust Control Plan (Sections 2.2 and 4 of Appendix L of the Remedial Design)
A plan that addresses dust control protection procedures and protocol for minimizing fugitive dust emissions during the RA was included in the Air Monitoring Plan and shall be updated as necessary.

3.5 Update Construction Quality Assurance Project Plan (CQAPP) (Appendix K of the Remedial Design)
The Settling Work Defendant shall review and update as necessary the final Construction Quality Assurance (CQAPP) Plan as submitted as part of the final design documents. The CQAPP Plan shall outline the necessary steps to inspect and sample construction materials (i.e., membranes, concrete) and to ensure the overall quality of the constructed project. Updates to the CQAPP Plan shall include the following elements:

3.5.1 Personnel
Responsibility and authority of all organization and key personnel involved in the RA construction.

3.5.2 CQAPP Personnel Qualifications
The Settling Work Defendant shall establish the minimum qualifications of the CQAPP Officer and supporting inspection personnel.

3.5.3 Inspection Activities
The Settling Work Defendant shall establish the observations and tests that will be required to monitor the construction and/or installation of the components of the RA(s). The plan shall include the scope and frequency of each type of inspection to be conducted. Inspections shall be required to verify compliance with environmental requirements and include, but not be limited to, air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. Inspections shall also ensure compliance with all health and safety procedures.

3.5.4 Sampling requirements
The Settling Work Defendant shall establish the requirements for sampling activities, sample size, sample locations, frequency of testing, criteria for acceptance and rejection, and plans for correcting problems as addressed in the project specifications.

3.5.5 Documentation
The Settling Work Defendant shall describe the reporting requirements for CQAPP activities. This shall include such items as daily summary reports and inspection data sheets.

3.6 Update Contingency (Spill) Plan (Appendix E of the Remedial Design)
The Settling Work Defendant shall update as necessary this plan to provide contingency measures for potential spills and discharges from materials handling or transportation. It should describe methods, means, and facilities required to prevent contamination of soil, water, atmosphere, uncontaminated structures, equipment or material from the discharge of waste due to spills. The Settling Work Defendant shall provide for equipment and personnel to perform emergency measures required to contain a spill and to remove and properly dispose of any media that become contaminated due to spillage, and provide for equipment and personnel to perform

decontamination measures that may be required to remove spillage from previously uncontaminated structures, equipment, or material.

4. Task 4 Construction

This task includes the field supervision and documentation of the Settling Work Defendant's RA contractors' work as it proceeds onsite. The task begins with the Settling Work Defendant's contractors' mobilization to the Site and ends with the final inspection. The Settling Work Defendant will provide the necessary personnel to observe and monitor the Settling Work Defendant's contractors' daily activities, procedures, and inspections.

4.1 Attend Periodic Meetings
The Settling Work Defendant and its contractors shall attend any meetings, at the request of the EPA, to provide clarification on contract documents, specifications, construction progress, and field schedules.

4.2 Provide Field Presence and Oversight
The Settling Work Defendant shall provide a Resident Engineer to observe, monitor, and document the daily field activities of the Settling Work Defendant's contractors.

4.3 Maintain Field Logs and Daily Diaries
The Settling Work Defendant's Resident Engineer shall maintain field logs and daily diaries documenting activities occurring in the field during construction.

4.4 Provide Engineering Support
The Settling Work Defendant shall recommend actions on health and safety considerations if necessary, maintain records to support the resolution of any claims filed by its contractors, shall provide support for construction schedule changes, monitor, update and report construction progress, review and update the schedule necessary during the construction, prepare inspection reports during construction, and review construction drawings during construction.

4.5 Perform Field Testing
The Settling Work Defendant shall provide the necessary personnel and equipment to collect any confirmatory samples, perform any necessary field testing, and conduct inspections of work.

4.6 Monitor Quality Control Procedures
The Settling Work Defendant shall monitor any quality control procedures.

5. Task 5 Performance and Cleanup Validation

The purpose of this task is for the Settling Work Defendant to perform confirmatory sampling and/or performance validation data collection during construction and to verify that final cleanup levels or standards, as specified in the ROD have been achieved. This task may also include confirmatory testing of materials used during construction to determine if they are consistent with the requirements of the construction contract documents (i.e., soils testing, materials testing). This task may begin during the early stages of construction, continue throughout construction, and end with the final inspection to ensure cleanup levels have been met.

5.1 Mobilization/Demobilization

The Settling Work Defendant shall acquire all necessary equipment, supplies, and personnel to set up onsite operations for confirmatory sampling and analyses and dismantle and pack up all equipment associated with the confirmatory sampling activities.

5.2 Field Investigation

Settling Work Defendant shall complete the following as necessary in accordance with the Remedial Design and Remedial Action Work Plan:

5.2.1 Soil/Sediment

Conduct soils/sediments confirmatory sampling.

5.2.2 Air

Conduct air sampling throughout the RA.

5.2.3 Ground Water/Wells

The Settling Work Defendant shall mobilize the necessary personnel and equipment for well installation, well system plugging and abandonment for the necessary onsite wells. Also, Settling Work Defendant shall collect samples from the monitoring wells and measure the ground water elevation throughout the RA pursuant to the requirements in the ROD.

As discussed in the ROD, prior to defining the Technical Impracticability zone in the CR 126 West Area, a two-year transitional monitoring period will occur, Separate ground water monitoring systems will be maintained for the S1 and S2 sands and used to collect contaminant, hydrogeologic, and geochemical parameters. In general, the two-year transitional period will be used to establish ground water contaminant plume baselines in the S1 and S2 sands and to evaluate the degree to which natural biodegradation processes will reduce contaminant mass within the S1 and S2 sands. The primary monitoring objective will be to demonstrate that the plumes are stable or declining in nature and that there is no risk to receptors.

5.2.4 Hydrogeological

The Settling Work Defendant shall collect required hydrogeological samples during the RA.

5.2.5 Investigation-derived Wastes

The Settling Work Defendant shall characterize and dispose of investigation-derived wastes in accordance with local, State, and Federal regulations as specified in the FSP and the Waste Management Plan (For more information, refer to the Fact Sheet entitled, Guide to Management of Investigation-Derived Wastes, 9345.3-03FS [January 1992]).

5.3 Sample Analysis

The Settling Work Defendant shall arrange for and conduct the appropriate combination of analytical tests for any materials and/or confirmatory samples taken at the Site, including the following tasks:

5.3.1 Analyze Air Samples
5.3.2 Analyze Ground Water Samples
5.3.3 Analyze Surface Water Samples

5.3.4 Analyze Soil and Sediment Samples
5.3.5 Analyze Waste (Liquid) Samples
5.3.5 Analyze Waste (Solid) Samples

5.4 Analytical Support and Data Validation
The Settling Work Defendant shall ensure the proper management of samples in the field and arrange for shipment to the designated laboratory. Accurate chain-of-custody procedures for sample tracking, protective sample packing techniques, and proper sample-preservation techniques will be used.

5.5 Data Evaluation
The Settling Work Defendant shall evaluate, interpret, and tabulate data in an appropriate presentation format for final data tables. The Settling Work Defendant shall design and set up an appropriate database for pertinent information collected that will be used to validate the RA. These tables will include soil/sediment data, air data, ground water data, surface water data, and waste data. The Settling Work Defendant shall evaluate and present the sampling and analytical results in a summary report and submit to the RPM for review. The report will assess the progress of the RA based on these results and identify any actions required.

6. Task 6 Interim RA Completion Report (Completion of the Remedial Action)

The purpose of the interim project completion and close-out activities is for the RA Settling Work Defendant to conduct the necessary inspections to verify completed work and prepare an Interim Remedial Action Report. Within 90 days after Settling Work Defendant concludes that the Remedial Action has been fully performed and the construction Performance Standards have been attained, Settling Defendant shall schedule and conduct a pre-certification inspection to be attended by Settling Work Defendant, EPA, and the State.

6.1 Pre-final/Final Inspections

6.1.1 Make pre-final inspection
The Settling Work Defendant shall conduct the pre-final inspection with its contractors, EPA, TCEQ, and EPA's oversight contractor and develop a punch list of deficiencies. The Settling Work Defendant shall prepare and submit a pre-final inspection report which includes the list of deficiencies, completion dates for outstanding items, and the date for a final inspection.

6.1.2 Make Final Inspection
The Settling Work Defendant shall conduct the final inspection with its contractors, EPA, TCEQ, and EPA's oversight contractor and determine if all terms of the contract have been satisfied.

6.1.3 Final Punch List

6.1.3.1 As-built resolution/certification
6.1.3.2 RA Oversight documentation

6.2 Interim Remedial Action Report

6.2.1 Prepare draft Interim Remedial Action Report
The Settling Work Defendant shall prepare and submit to the RPM the Interim Remedial Action Report, in accordance with the fact sheet entitled, Remedial Action Report, Documentation for Operable Unit Completion, Publication 9355.0-39FS, June 1992. The report shall summarize RA events, performance standards and construction quality control, construction activities, final inspection, certification that the remedy is operational and functional, and O&M.

6.2.2 Respond to Comments
The Settling Work Defendant shall respond to agency comments in preparing revisions to the final Interim Remedial Action Report.

6.2.3 Prepare/Issue final Interim Remedial Action Report
After receipt of EPA comments, the Settling Defendant shall prepare and submit revisions to the final Interim Remedial Action Report to the RPM.

6.2.4 Pre-Certification Inspection
The EPA RPM, designated EPA oversight officials, State, and the Settling Defendant, shall conduct a pre-certification inspection. The purpose of the inspection is to determine whether all aspects of the plans and specifications have been implemented at the Site, and whether the remedy is operational, and has met or is capable of meeting all ARARs and Performance Standards identified in the ROD. EPA may require repeated pre-certification inspections in order for EPA to reinspect Work which was not completed in accordance with the Consent Decree or this Statement of Work, as determined by EPA during a previous inspection.

6.2.5 Certificate of Completion of the Remedial Action
Procedures for securing a Certification of Completion are contained in Section XIV of the Consent Decree (Certification of Completion of the Remedial Action).

7. Task 7 Project Performance (Operation and Maintenance)

The purpose of this task is to perform the activities necessary to protect the integrity of the remedy or any future remedial measures and to evaluate system performance. This task begins during the later stages of construction with the revision of the O&M plan and ends with submittal of final technical memoranda summarizing project performance. Long term O&M includes maintenance, monitoring, and, when required by the remedy, operations which will continue until all of the performance standards in the ROD have been met. This scope of this O&M Plan does not apply to maintenance and monitoring of areas of the Site outside of the areas identified in Figures 2 and 3.

7.1 Operation & Maintenance (O&M)

7.1.1 The Settling Work Defendant shall review and update the O&M Plan as necessary, to implement the operable components of the O&M. A revised O&M plan shall be submitted to EPA 30 days prior to the final inspection.

7.1.2 The Settling Work Defendant has described and analyzed potential operating problems with respect to the short term chemical oxidation remedial measure and the evaluation of

these potential problems was documented in the Pilot Study Technical Feasibility Demonstration Report submitted in February 2006.

7.1.3 The Settling Work Defendant shall review conformity to applicable performance and operations requirements (i.e., for chemical oxidation and solidification activities).

7.1.4 The Settling Work Defendant shall support all necessary training of the O&M staff, including contractors.

7.1.5 The Settling Work Defendant shall identify any potential system failures and develop corrective action plans, if necessary.

7.1.6 The Settling Work Defendant shall review the records and reporting requirements.

7.1.7 The Settling Work Defendant shall review the laboratory procedures.

7.1.8 The Settling Work Defendant shall review the process systems.

7.1.9 The Settling Work Defendant shall perform the necessary reviews of safety and emergency systems.

7.1.10 The Settling Work Defendant shall review the warranty information and files.

7.2 Evaluate System Performance

7.2.1 The Settling Work Defendant shall evaluate the performance of the RA as implemented via periodic ground water quality monitoring where required.

7.2.2 The Settling Work Defendant shall oversee ground water monitoring in accordance with the plans as approved by EPA.

7.2.3 The Settling Work Defendant shall require its contractor gather and test ground water and treated soil samples.

7.3 Report Project Performance

7.3.1 The Settling Work Defendant shall prepare a technical memorandum to summarize the required O&M procedures. The draft technical memoranda shall be submitted to the RPM 30 days prior to the final inspection.

7.3.2 The Settling Work Defendant shall respond to agency comments.

7.3.3 The Settling Defendant shall respond to any comments from EPA and TCEQ and prepare the Final Technical Memoranda within 30 days of receipt of all comments.

7.4 Five Year Reviews

Settling Work Defendant shall conduct any studies and investigations requested by EPA, in order to permit EPA to conduct reviews to determine whether the Remedial Action is protective of human health and the environment, so as to permit EPA to complete such reviews and determinations within five years after commencement of remedial construction and at least every consecutive five years thereafter, as required by Section 121(c) of CERCLA, 42 U.S.C. §9621(c), and the NCP. The five year reviews will continue in this manner and on this schedule as long as contaminants remain in place at the Site that prevent its unrestricted use.

8. Task 8 Final RA Completion Report (Completion of the Work)

The purpose of the final project completion and close-out activities is for the RA Settling Work Defendant to conduct the necessary inspections to verify completed work and prepare a Final Remedial Action Report (Completion of Work). Within 90 days after Settling Work Defendant concludes that the Performance Standards have been attained, Settling Defendant shall schedule and conduct a pre-certification inspection to be attended by Settling Work Defendant, EPA, and the State.

8.1 Pre-final/Final Inspections

8.1.1 Make pre-final inspection
The Settling Work Defendant shall conduct the pre-final inspection with its contractors, EPA, TCEQ, and EPA's oversight contractor and develop a punch list of deficiencies. The Settling Work Defendant shall prepare and submit a pre-final inspection report which includes the list of deficiencies, completion dates for outstanding items, and the date for a final inspection.

8.1.2 Make Final Inspection
The Settling Work Defendant shall conduct the final inspection with its contractors, EPA, TCEQ, and EPA's oversight contractor and determine if all terms of the contract have been satisfied.

8.1.3 Final Punch List

8.1.3.1 As-built resolution/certification
8.1.3.2 Other items

8.2 Final Remedial Action Report

8.2.1 Prepare Final Remedial Action Report (Completion of the Work)
The Settling Work Defendant shall prepare and submit to the RPM the draft Final Remedial Action Report, in accordance with the fact sheet entitled, Remedial Action Report, Documentation for Operable Unit Completion, Publication 9355.0-39FS, June 1992. The report shall summarize RA events, and certify the completion of all of the work, including that the Performance Standards from the ROD, except where waived, have been attained.

8.2.2 Respond to Comments
The Settling Work Defendant shall respond to agency comments within 60 days of receipt of comments.

8.2.3 Prepare/Issue Final Remedial Action Report
After receipt of EPA comments, the Settling Work Defendant shall prepare and submit the final Remedial Action Report to the RPM.

8.2.4 Pre-Certification Inspection
The EPA RPM, designated EPA oversight officials, State, and the Settling Work Defendant, shall conduct a pre-certification inspection. The purpose of the inspection is to determine whether the Performance Standards identified in the ROD have all been met. EPA may require repeated pre-certification inspections in order for EPA to reinspect Work which was not completed in accordance with the Consent Decree or this Statement of Work, as determined by EPA during a previous inspection.

8.2.5 Certificate of Completion of the Work
Procedures for securing a Certification of Completion after the implementation of the TI Zone are contained in Section XIV of the Consent Decree (Certification of Completion of the Work).

Attachment 1: Summary of Major Submittals for the Remedial Design at the Petro-Chemical Systems, Inc., Superfund Site

TASK	DELIVERABLE	NO. OF COPIES	DUE DATE (calendar days)	ESTIMATED EPA REVIEW TIME
D4	Conversation/meeting notes	3	5 days after meeting or conversation	5 days after receipt
D4	Monthly progress reports	3	monthly beginning after the entering of the CD and ending the month following the certification of completion (submitted on the 10th day of each month for the previous month's work)	10 days after receipt
E1.1	Supervising Contractor	3	10 days after lodging of the CD	5 days to issue Authorization to Proceed
E1.3	Site Visit Trip Report	3	10 days after site visit	5 days after receipt
E1.5	RD Work Plan-draft	3	60 days after EPA issues Authorization to Proceed	45 days after receipt
E1.6	RD Work Plan-final	3	30 days after receipt of EPA comments	14 days after receipt
E1.7.1	SMP	3	60 days after Authorization to Proceed-included with RD work plan	45 days after receipt
E1.7.1.1	Pollution Control and Mitigation Plan	NA	Included with SMP	NA
E1.7.1.2	Waste Management Plan	NA	Included with SMP	NA
E1.7.1	SMP-final	3	30 days after receipt of EPA comments	14 days after receipt
E1.7.2	Health and Safety Plan (HASP)	3	60 days after Authorization to Proceed-included with RD work plan	45 days after receipt
E1.7.2	Revised HASP	3	30 days after receipt of EPA Comments	14 days after receipt
E1.7.3	SAP-draft	3	60 days after Authorization to Proceed-included with RD work plan	45 days after receipt
E1.7.3.1	Quality Assurance Project Plan	NA	Included with the SAP	NA
E1.7.3.2	Field Sampling Plan	NA	Included with the SAP	NA
E1.7.3.3	Data Management Plan	NA	Included with the SAP	NA
E1.7.3	SAP-final	3	30 days after receipt of EPA Comments	14 days after receipt
E1.7.4	Contingency Plan-draft	3	60 days after Authorization to Proceed-included with RD work plan	45 days after receipt

TASK	DELIVERABLE	NO. OF COPIES	DUE DATE (calendar days)	ESTIMATED EPA REVIEW TIME
E1.7.4	Contingency Plan-final	3	30 days after receipt of EPA Comments	14 days after receipt
E1.7.5	Construction Quality Assurance Project Plan -draft	3	60 days after Authorization to Proceed-included with RD work plan	45 days after receipt
E1.7.5	Construction Quality Assurance Project Plan - final	3	30 days after receipt of EPA Comments	14 days after receipt
E2.1	Community Relations Plan (CRP)	3	90 days after Authorization to Proceed	45 days after receipt
E2.1	CRP-final draft	3	30 days after receipt of EPA Comments	14 days after receipt
E2.3	Fact Sheet-draft	3	As needed	5 days after receipt
E2.3	Fact Sheet-final	3	5 days after receipt	1 days after receipt
E7.2	Treatability Study Work Plan-draft	3	60 days after Authorization to Proceed-included with RD work plan	45 days after receipt
E7.2	Revised Treatability Study Work Plan	3	30 days after receipt of EPA comments	14 days after receipt
E7.4	Treatability Study Evaluation Report-draft	3	60 days after completion of Treatability Study	30 days after receipt
E7.4	Treatability Study Evaluation Report-final	3	30 days after receipt of EPA comments	14 days after receipt
E8.1	Prefinal Design _	3	As defined in the approved RD Work Plan	60 days after receipt
E8.5	Response to Prefinal Design Review Comments	3	60 days after either the receipt of comments or the design review meeting	30 days after receipt
E9.1	Final Design	3	45 days after Response to Prefinal Design Comments	15 days after receipt

_ **Prefinal Design Plans Submittal Items:**

E8.1.1 Prefinal Project Delivery Strategy and Scheduling
E8.1.2 Prefinal Construction Schedule
E8.1.3 Prefinal Specifications Outline
E8.1.4 Prefinal Drawings and Schematics
E8.1.5 Prefinal Basis of Design Report
E8.1.6 Prefinal Air Monitoring Report

E8.1.7 Prefinal Surface Water and Ground Water Monitoring Report
E8.1.8 Prefinal Construction Quality Assurance Project Plan
E8.1.9 Data Evaluation Report
E8.1.10 Prefinal Draft Operations and Maintenance Plan
E8.1.11 Prefinal Contingency Plan
E8.1.12 Prefinal Field Sampling Plan
E8.2 Prefinal Biddability, Operability, and Constructability Review
E8.3 Variances with the ROD
E8.4 Land Acquisition and Easement Requirements

__ **Final Design Plans Submittal Items:**

E9.1 Final Drawings and Specifications
E9.1.2 Final Basis of Design Report
E9.1.3 Final Air Monitoring Report
E9.1.4 Final Surface Water and Ground Water Monitoring Report
E9.1.5 Final Construction Quality Assurance Project Plan
E9.1.6 Final O&M Plan
E9.1.7 Final Contingency Plan
E9.1.8 Final Field Sampling Plan
E9.2 Final Design Submittal
E9.4 Final Biddability, Operability, and Constructability Review
E9.5 Final Project Delivery Strategy and Schedule

See Attachment 3 for list of references.

Attachment 2: Summary of Major Submittals for the Remedial Action at the Petro-Chemical Systems, Inc., Superfund Site

TASK	DELIVERABLE	NO. OF COPIES	DUE DATE (calendar days)	Estimated EPA Review Time
D4	Conversation/meeting notes	3	Periodic emails	NA
D4	Monthly progress reports	3	Monthly via conference calls, email and periodic submittals	See Attachment 1
F1.2	Site Visit Trip Report	3	Site visit trip reports are due 10 days after site visit	5 days after receipt.
F1.4	RA Work Plan-drafts	3	60 days after approval of Final Remedial Design	15 days after receipt
F1.5	RA Work Plan-final	3	21 days after receipt of EPA comments	7 days after receipt
F2.1	CRP-draft	3	15 days after approval of of Final Remedial Design	14 days after receipt
F2.1	CRP-final	3	30 days after receipt of EPA comments	14 days of receipt
F2.3	Fact Sheet-draft	3	As needed	5 days after receipt
F2.3	Fact Sheet-final	3	10 days after receipt of EPA comments	3 days after receipt
F3.1	SMP-updated draft for RA	3	30 days after approval of Final RD – included with the RA work plan	15 days after receipt
F3.1.1	Pollution Control and Mitigation Plan	NA	Included with SMP	NA
F3.1.2	Waste Management Plan	NA	Included with SMP	NA
F3.1	SMP-final for RA	3	15 days after receipt of EPA comments	7 days after receipt
F3.2	Health and Safety Plan (HASP)-updated draft for RA	3	30 days after approval of Final RD-included with the RA Work Plan	15 days after receipt
F3.2	HASP-Final for RA	3	45 days after approval of Final RD – included with the RA work plan	7 days after receipt
F3.3	SAP-updated draft for RA	3	45 days after receipt of EPA Comments	15 days after receipt
F3.3.1	Quality Assurance Project Plan	NA	Included with the SAP	NA
F3.3.2	Field Sampling Plan	NA	Included with the SAP	NA
F3.3.3	Data Management Plan	NA	Included with the SAP	NA
F3.3	SAP-final for RA	3	15 days after receipt of EPA Comments	15 days afer receipt
F3.4	Air Sampling Plan-updated draft for	3	45 days after approval of Final RD –	15 days after receipt

TASK	DELIVERABLE	NO. OF COPIES	DUE DATE (calendar days)	Estimated EPA Review Time
	RA		included with the RA work plan	
F3.4	Air Sampling Plan-Final for RA	3	15 days after receipt of EPA Comments	15 days after receipt
F3.5	Construction Quality Assurance Plan-updated draft for RA	3	45 days after approval of Final RD – included with the RA work plan	15 days after receipt
F3.5	Construction Quality Assurance Plan-Final for RA	3	15 days after receipt of EPA Comments	15 days after receipt
F3.6	Contingency (Spill) Plan-updated draft for RA	3	45 days after approval of Final RD – included with the RA work plan	15 days after receipt
F3.6	Contingency (Spill) Plan-final for RA	3	15 days after receipt of EPA Comments	15 days after receipt
F5.5	Data Evaluation Report-draft	3	21 days after receipt of analytical results from laboratory	15 days after receipt
F5.5	Data Evaluation Reports-final	3	10 days after receipt of EPA comments	7 days after receipt
F6.1	Interim RA Pre-final Inspection Report	3	30 days after completion of the Pre-final Inspection	7 days after receipt
F6.1.2	Interim RA Final Inspection Report	3	60 days after completion of punch list items identified by the Pre-final Inspection	7 days after receipt
F6.2	Complete Interim RA field work	NA	In accordance with schedule in the Final RA Work Plan	NA
F6.2	Interim RA Report-draft	3	45 days after completion of the Final Inspection	15 days after receipt
F6.2.3	Interim RA Report-final	3	60 days after receipt of EPA Comments	7 days after receipt
F6.2.5	Certification of Completion of the Remedial Action	3	In accordance with Section XIV of the Consent Decree	15 days after approval of RA Report
F7.1	O&M Plan	3	30 days prior to the final inspection	30 days after receipt
F7.4	Five Year Review Report	3	180 days prior to five years after RA construction start and every five years thereafter as required by law	60 days after receipt
F8.1	Final RA Pre-final Inspection Report	3	45 days after completion of the Final RA	15 days after receipt

TASK	DELIVERABLE	NO. OF COPIES	DUE DATE (calendar days)	Estimated EPA Review Time
			Pre-final Inspection	
F8.1.2	Final RA Final Inspection Report	3	60 days after completion of punch list items identified by the Pre-final Inspection	15 days after receipt
F8.2	Complete Final RA field work		In accordance with schedule in the Final RA Work Plan	NA
F8.2	Final RA Report-draft		45 days after completion of the Final Inspection	15 days after receipt
F8.2.3	Final RA Report-final		60 days after Response to EPA Comments	7 days after receipt
F8.2.5	Certification of Completion of the Work.			15 days after approval of RA Report

Attachment 3
Regulations and Guidance Documents

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RD/RA process:

1. American National Standards Practices for Respiratory Protection. American National Standards Institute Z88.2-1980, March 11, 1981.
2. ARCS Construction Contract Modification Procedures September 89, OERR Directive 9355.5-01/FS.
3. CERCLA Compliance with Other Laws Manual, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (DRAFT), OSWER Directive No. 9234.1-01 and -02.
4. Community Relations in Superfund — A Handbook, U.S. EPA, Office of Emergency and Remedial Response, EPA 540-K-01-003, April 2002.
5. A Compendium of Superfund Field Operations Methods, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.
6. Construction Quality Assurance for Hazardous Waste Land Disposal Facilities, U.S. EPA, Office of Solid Waste and Emergency Response, October 1986, OSWER Directive No. 9472.003.
7. Contractor Requirements for the Control and Security of RCRA Confidential Business Information, March 1984.
8. The Data Quality Objectives Process for Superfund: Interim Final Guidance, U.S. EPA, EPA/540/R-93/071, September 1993.
9. Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual, U.S. EPA Region IV, Environmental Services Division, April 1, 1986 (revised periodically).
10. EPA NEIC Policies and Procedures Manual, EPA-330/9-78-001-R, May 1978, revised November 1984.
11. Federal Acquisition Regulation, Washington, DC: U.S. Government Printing Office (revised periodically).
12. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive NO. 9355.3-01.
13. Guidance for Evaluating the Technical Impracticability of Ground Water-Restoration, U.S. EPA, Office of Solid Waste and Emergency Response Directive 9234.2-25, September 1993.
14. Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potential Responsible Parties, U.S. EPA Office of Emergency and Remedial Response, EPA/540/G-90/001, April 1990.
15. Guidance on Expediting Remedial Design and Remedial Actions, EPA/540/G-90/006, August 1990.
16. Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites, U.S. EPA Office of Emergency and Remedial Response (DRAFT), OSWER Directive No. 9283.1-2.
17. Guide for Conducting Treatability Studies Under CERCLA, U.S. EPA, Office of Emergency and Remedial Response, Prepublication version.
18. Guide to Management of Investigation-Derived Wastes, U.S. EPA, Office of Solid Waste and Emergency Response, Publication 9345.3-03FS, January 1992.
19. Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29, 1980.

20. Health and Safety Requirements of Employees Employed in Field Activities, U.S. EPA, Office of Emergency and Remedial Response, July 12, 1982, EPA Order No. 1440.2.
21. Interim Guidance on Compliance with Applicable of Relevant and Appropriate Requirements, U.S. EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.
22. Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.
23. Methods for Evaluating the Attainment of Cleanup Standards: Vol. 1, Soils and Solid Media, February 1989, EPA 23/02-89-042; vol. 2, Ground water (Jul 1992).
24. National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, Federal Register 40 C.F.R. Part 300, March 8, 1990.
25. NIOSH Manual of Analytical Methods, 2nd edition. Volumes I-VII for the 3rd edition, Volumes I and II, National Institute of Occupational Safety and Health.
26. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, National Institute of Occupational Safety and Health/Occupational Health and Safety Administration/United States Coast Guard/Environmental Protection Agency, October 1985.
27. Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions, February 19, 1992, OSWER Directive 9355.7-03.
28. Procedure for Planning and Implementing Off-Site Response Actions, Federal Register, Volume 50, Number 214, November 1985, pages 45933-45937.
29. Procedures for Completion and Deletion of NPL Sites, U.S. EPA, Office of Emergency and Remedial Response, April 1989, OSWER Directive No. 9320.2-3A.
30. Quality in the Constructed Project: A Guideline for Owners, Designers and Constructors, Volume 1, Preliminary Edition for Trial Use and Comment, American Society of Civil Engineers, May 1988.
31. *Remedial Design/Remedial Action (RD/RA) Handbook*, U.S. EPA, Office of Solid Waste and Emergency Response (OSWER), 9355.0-04B, EPA 540/R-95/059, June 1995.
32. Revision of Policy Regarding Superfund Project Assignments, OSWER Directive No. 9242.3-08, December 10, 1991. [Guidance, p. 2-2]
33. Scoping the Remedial Design (Fact Sheet), February 1995, OSWER Publ. 9355-5-21 FS.
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35. Standards for the Construction Industry, Code of Federal Regulations, Title 29, Part 1926, Occupational Health and Safety Administration.
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43. USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, U.S. EPA, Office of Emergency and Remedial Response, July 1988.

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45. User's Guide to the EPA Contract Laboratory Program, U.S. EPA, Sample Management Office, August 1982.
46. Value Engineering (Fact Sheet), U.S. EPA, Office of Solid Waste and Emergency Response, Publication 9355.5-03FS, May 1990.
47. Presumptive Remedies: Policy and Procedures, U.S. EPA, Office of Solid Waste and Emergency Response, Directive 9355.0-47FS, EPA 540-F-93-047, PB 93-963345, September, 1993.
48. Presumptive Remedies for Metals-in-Soil Sites, U.S. EPA, Office of Solid Waste and Emergency Response, Directive 9355.0-72FS, EPA 540-F-98-054, September 1999.
49. Close Out Procedures for NPL Sites, U.S. EPA, Office of Solid Waste and Emergency Response, Directive 9320.2-09A-P, EPA 540-R-98-016, PB 98-963223, January 2000.
50. Guide to Documenting Cost and Performance for Remediation Projects, EPA 542-B-95-002, March 1995.
51. Guidance for the Data Quality Objectives Process, EPA QA/G-4, EPA-600-R-96-055, August 2000.

Attachment 4: Document Transmittal Form

TRANSMITTAL OF DOCUMENTS FOR ACCEPTANCE BY EPA		DATE:	TRANSMITTAL NO.
TO:		FROM:	_ New Transmittal _ Resubmittal of Transmittal No. _____
DOCUMENT NO.	DELIVERABLE	NO. OF COPIES	REMARKS
ACCEPTANCE ACTION			
DOCUMENTS FOUND ACCEPTABLE (LIST BY SUBTASK NO.)		NAME/TITLE/SIGNATURE OF REVIEWER	

Attachment 5: Work Breakout Structure for Remedial Design/Remedial Action
Petro-Chemical Systems, Inc, Superfund Site

A INTRODUCTION

B. PURPOSE

C. OVERVIEW OF REMEDIAL ACTION AND PERFORMANCE STANDARDS
- 1. Remedial Action Objectives
- 2. Performance Standards
- 3. Remedy Description

D. GENERAL REQUIREMENTS

E. REMEDIAL DESIGN

TASK 1: PROJECT PLANNING AND SUPPORT
- 1.1_ Supervising Contractor
- 1.2_ Attend Scoping Meeting
- 1.3_ Conduct Site Visit (if needed)
- 1.4_ Evaluate Existing Data and Documents
- 1.5_ Develop Draft Work Plan
  - 1.5.1 Develop Narrative
  - 1.5.2 Background
  - 1.5.3 Task Narrative
  - 1.5.4 Schedule
- 1.6 Negotiate and Revise Draft Work Plan
- 1.7 Site Specific Plans
  - 1.7.1 Site Management Plan
    - 1.7.1.1 Pollution control and Mitigation Plan
    - 1.7.1.2 Waste Management Plan
      - 1.7.1.2.1 Decontamination Plan
      - 1.7.1.2.2 Water Control Plan
  - 1.7.2 Health and Safety Plan
  - 1.7.3 Sampling and Analysis Plan
    - 1.7.3.1 Quality Assurance Project Plan (QAPP)
    - 1.7.3.2 Field Sampling Plan
    - 1.7.3.3 Data Management Plan
  - 1.7.4 Contingency Plan
  - 1.7.5 Construction Quality Assurance Project Plan (CQAPP)
    - 1.7.5.1 Personnel
    - 1.7.5.2 CQAPP Personnel Qualifications
    - 1.7.5.3 Inspection Activities
    - 1.7.5.4 Sampling Requirements
    - 1.7.5.5 Documentation

2. Task 2: COMMUNITY RELATIONS
- 2.1 Community Relation Plan

- 2.2 Community Meeting Support
  - 2.2.1 Logistical and Presentation Support
  - 2.2.2 Technical Support
- 2.3 Fact Sheet Preparation
- 2.4 Information Repositories

3. TASK 3: DATA ACQUISITION
   - 3.1 Mobilization and Demobilization
     - 3.1.1 Identify Field Support Equipment, Supplies, and Facilities
     - 3.1.2 Mobilization
     - 3.1.3 Site Preparation
     - 3.1.4 Installation of Utilities
     - 3.1.5 Construction of Temporary Facilities
     - 3.1.6 Demobilization
   - 3.2 Field Investigation as needed

4. TASK 4: SAMPLE ANALYSIS
   - 4.1 Screening-Type Laboratory Sample Analysis
   - 4.2 CLP-Type Laboratory Sample Analysis

5. TASK 5: ANALYTICAL SUPPORT AND DATA VALIDATION
   - 5.1 Prepare and Ship Environmental Sample
   - 5.2 Implement EPA-Approved Laboratory QA Program
   - 5.3 Provide Sample Management
   - 5.4 Coordinate with Appropriate Sample Management Personnel
   - 5.5 Data Validation Support

6. TASK 6: DATA EVALUATION
   - 6.1 Data Usability Evaluation and Field QA/QC
   - 6.2 Data Reduction, Tabulation, and Evaluation
   - 6.3 Modeling (if needed)
   - 6.4 Develop Data Evaluation Report

7. TASK 7: TREATABILITY STUDY AND PILOT TESTING
   - 7.1 Literature Search
   - 7.2 Develop Treatability Study Work Plan
   - 7.3 Bench Test, Pilot Scale Test, Field Test
     - 7.3.1 Procure Test Facility and Equipment
     - 7.3.2 Provide Vendor and Analytical Service
     - 7.3.3 Test and Operate Equipment
     - 7.3.4 Retrieve Sample for Testing
     - 7.3.5 Perform Laboratory Analysis
     - 7.3.6 Characterize and Dispose of Residuals
   - 7.4 Develop Treatability Study Report

8. TASK 8: PREFINAL DESIGN
   - 8.1 Prefinal Design
     - 8.1.1 Prefinal Project Delivery Strategy and Scheduling
     - 8.1.2 Prefinal Construction Schedule

8.1.3 Prefinal Specifications Outline
8.1.4 Prefinal Drawings and Specifications
8.1.5 Prefinal Basis of Design Report
8.1.5.1 Summary and Detailed Justification of Assumptions
8.1.5.2 Recommended RA Contracting Strategy
8.1.5.3 Plan for satisfying Permitting Requirements
8.1.5.4 Identification of Easement and Access Requirements
8.1.6 Prefinal Air Monitoring Plan
8.1.7 Prefinal Surface Water and Ground Water Monitoring Plan
8.1.8 Data Evaluation Report
8.1.9 Prefinal O&M Report
8.1.10 Prefinal Contingency Plan
8.1.11 Prefinal Field Sampling Plan
8.2 Prefinal Biddability, Constructability, Operability Review
8.3 Describe Variances with the Performance Standards or ARARs
8.4 Land Acquisition and Easement Requirements
8.5 Respond to Design Review Comments
8.6 Participate in Prefinal Design Review or Briefing

9. TASK 9: FINAL DESIGN
9.1 Prepare Final Design Specifications
9.1.1 Final Drawings
9.1.2 Final Basis of Design Report
9.1.3 Final Air Monitoring Plan
9.1.4 Final Construction Quality Assurance Plan
9.1.5 Final Surface Water and Ground Water Monitoring Plan
9.1.6 Final O&M Plan
9.1.7 Final Contingency Plan
9.1.8 Final Sampling Plan
9.2 Participate in Final Design Review
9.3 Final Design Submittal
9.4 Final Biddability, Operability, and Constructability Reviews
9.5 Final Project Delivery Strategy and Construction Schedule

F. REMEDIAL ACTION

1. TASK 1: PHASE II PROJECT PLANNING AND SUPPORT
1.1 Attend Scoping Meeting
1.2 Conduct Site visit (if needed)
1.3 Evaluate Existing Information
1.4 Develop Draft Remedial Action (RA) Work Plan
1.4.1 Develop Narrative
1.4.2 Identify the Problems
1.4.3 Task Narratives
1.4.4 Schedule
1.4.5 Personnel
1.5 Negotiate and Revise Draft Work Plan
1.6 Project Management
1.6.1 Maintain Schedule Control System

1.6.2 Coordinate with Local Emergency Response Teams

2. Task 2: COMMUNITY RELATIONS
   - 2.1 Community Relation Plan
   - 2.2 Community Meeting Support
     - 2.2.1 Logistical and Presentation Support
     - 2.2.2 Technical Support
   - 2.3 Fact Sheet Preparation
   - 2.4 Information Repositories

3. TASK 3: UPDATE SITE SPECIFIC PLANS
   - 3.1 Update Site Management Plan
     - 3.1.1 Pollution Control and Mitigation Plan
     - 3.1.2 Waste Management Plan
       - 3.1.2.1 Decontamination Plan
       - 3.1.2.2 Water Control Plan
   - 3.2 Update Health and Safety Plan (HASP)
   - 3.3 Update Sampling and Analysis Plan
     - 3.3.1 Quality Assurance Project Plan
     - 3.3.2 Field Sampling Plan
     - 3.3.3 Data Management Plan
   - 3.4 Update Air Quality Monitoring Plan
     - 3.4.1 Dust Control Plan
   - 3.5 Update Construction Quality Assurance Project Plan
     - 3.5.1 Personnel
     - 3.5.2 CQAPP Personnel Qualifications
     - 3.5.3 Inspection Activities
     - 3.5.4 Sampling Requirements
     - 3.5.5 Documentation
   - 3.6 Update Contingency Plan

4. Task 4: CONSTRUCTION
   - 4.1 Attend Periodic Meetings
   - 4.2 Provide Field Presence and Oversight
   - 4.3 Maintain Field Logs and Daily Diaries
   - 4.4 Provide Engineering Support
   - 4.5 Perform Field Testing
   - 4.6 Monitor Quality Control Procedures

5. Task 5: Cleanup Validation
   - 5.1 Mobilization/Demobilization
   - 5.2 Field Investigation
     - 5.2.1 Soil/Sediment
     - 5.2.2 Air
     - 5.2.3 Ground Water/ Wells
     - 5.2.4 Hydrogeological
     - 5.2.6 Investigation-derived Wastes

- 5.3 Sample Analysis
  - 5.3.1 Analyze Air Samples
  - 5.3.2 Analyze Ground Water Samples
  - 5.3.3 Analyze Surface Water Samples
  - 5.3.4 Analyze Soil and Sediment Samples
  - 5.3.5 Analyze Waste (Liquid) Samples
  - 5.3.5 Analyze Waste (Solid) Samples
- 5.4 Analytical Support and Data Validation
- 5.5 Data Evaluation

6 Task 6: INTERIM RA COMPLETION REPORT
- 6.1 Pre-Final/Final Inspections
  - 6.1.1 Make Pre-Final Inspection
  - 6.1.2 Make Final Inspection
  - 6.1.3 Final Punch List
    - 6.1.3.1 As-built Resolution/Certification
    - 6.1.3.2 Trial Period Oversight
- 6.2 Interim Remedial Action Report
  - 6.2.1 Prepare Draft Interim Remedial Action Report
  - 6.2.2 Respond to Comments
  - 6.2.3 Prepare/Issue Final Interim Remedial Action Report
  - 6.2.4 Pre-Certification Inspection
  - 6.2.5 Certificate of Completion for Interim Remedial Action

7 Task 7 Project Performance (O&M)
- 7.1 O&M
- 7.2 Evaluate System Performance
- 7.3 Report Project Performance
- 7.4 Five Year Reviews

8 Task 8: FINAL RA COMPLETION REPORT (Completion of Work)
- 8.1 Pre-Final/Final Inspections
  - 8.1.1 Make Pre-Final Inspection
  - 8.1.2 Make Final Inspection
  - 8.1.3 Final Punch List
    - 8.1.3.1 As-built Resolution/Certification
    - 8.1.3.2 Trial Period Oversight
- 8.2 Final Remedial Action Report (Completion of Work)
  - 8.2.1 Prepare Draft Final Remedial Action Report (Completion of Work)
  - 8.2.2 Respond to Comments
  - 8.2.3 Prepare/Issue Final Remedial Action Report
  - 8.2.4 Pre-Certification Inspection
  - 8.2.5 Certificate of Completion for all Work